

ASUMBI GIRLS HIGH SCHOOL
POST -MOCK 1
AUGUST/SEPTEMBER
2022

BIOLOGY PP1 MS

1. a) Hypertonic;
b) The cell sap was hypotonic to the solution X; hence water was drawn from the cell into the solution by osmosis; making the cytoplasm to shrink and cell membrane detach from the cell wall;
2. a) Hydrolysis;
b) – ileum;
c) Sucrase;
3. a) At K/ between K and L
b) The inhibitor blocked the active sites of enzymes; that converts K to L; hence accumulation of K and near absence of L, M and N;
c) Enzyme activator;
4. a) Integuments;
b) Primary endosperm nucleus;
5. a) -Absorption of digested food such as glucose and amino acids; into the blood stream;
 - Exchange of respiratory gasses ie oxygen and carbon(iv) oxide; between the alveolus and blood capillaries;
 - Excretion of nitrogenous wastes such as urea; from the blood capillaries into elimination site;

Any two

bi) Active transport;

ii) – Low oxygen concentration;

- lowering temperature below optimum level;

- Presence of enzyme inhibitors;

ANY TWO

c) Haemolysis- A process by which red blood cells take up water from a solution of lower solute solution by osmosis till they burst. OWITTE

Plasmolysis – A process by which plants cell loss water to a solution of higher solute

Concentration by osmosis and becomes flaccid; OWITTE

6. Thigmonasty / Haptonasty; Rej. positive thigmonasty.

7. a) Bryophyta;

b) a- Seta;

b- Capsule;

c) Produces gametes whose fusion gives rise to the sporophyte generation/C;

8. i) Has a specialized region on the right atrium / pace maker known as sinoatrial node;

Rej SAN

ii) Has a specialized muscle region at the boundary between atria and ventricle called atrio-ventricle node that spreads the contractions.

iii) Muscle cells are interconnected to enable spreading of the wave of contractions;

ANY TWO

9. a) $2C_{57}H_{110}O_6 + 163O_2 \longrightarrow 114CO_2 + 110H_2O + \text{Energy}$.

b) They are easily transported.

They require less oxygen for their oxidation.

c) $\frac{104 CO_2}{163 O_2} = 0.669$;

163 O₂

10. i) (Ciliated) epithelial tissue.
ii) It wafts mucus with trapped dust/solid particles.
11. ai) Platelets;
ii) Forms a clot that prevents excessive bleeding/prevents entry of pathogens;
b) When platelets are exposed to air;/ When platelets clump together and adhere to the wall of damaged blood vessel;
12. a) Excess amino acids are deaminated in the liver; with formation of ammonia; which reacts with carbon dioxide to form urea, an excretory waste material.
b) – Bowman's capsule;
- Proximal convoluted tubule;
- Distal convoluted tubule ; - (All tied)
13. i) Rate of loss of water reduces; because temperatures lower and windy conditions reduced; reducing rate of transpiration.
ii) Rate of water absorption reduces; because rate of transpiration / water loss reduces hence less water needs to be replaced;
14. All amino acids are re-absorbed in the proximal convoluted tubule / kidney nephron;
15. a) Adenosine-triphosphate; Rej ATP

b) Insulin increased permeability of kidney tubules; increasing water re-absorption; when the body fluid's osmotic pressure is below normal.
16. i) Deamination.
ii) Blood sugar regulation.
iii) Respiration
iv) Detoxification

17. a) The toad's temperature fluctuates with the fluctuations of atmospheric air temperature.

b)- Increased respiration to generate more heat.

- Vasoconstriction thus less blood flowing to the skin reducing heat loss.

- Contraction of erector pili muscles raising the hairs (to upright position) trapping a layer of air that insulates the body against heat loss.

- Shivering to generate heat;

- Reduced or no sweating reducing heat loss;

- (Any three)

c)- Moves to cooler place / move to shade;

18. a) Operculum;

b) (i) Gill filament;

(ii) Are always moist for gasses to dissolve and diffuse in solution;

- They (tracheoles) are branched to increase surface area to serve every cell;

- They have thin wall to reduce distance of diffusion of gasses;

(ANY TWO)

19. a) Pollen grain;

b) Angiospermaphyta / Angiospermae / Angiospermatophyta;

c) (i) Generative nucleus;

(ii) Directs the growth of pollen tube through the style towards the micropyle;

20 ai) Deoxyribonucleic acid;

ii) Ribonucleic acid;

b) U-C-G-G-A;

c) Substitution;

21.a) – Motor neurone;

Reasons – i) cell body is found at the end of the axon;

ii) It is multipolar / from the cell body projects several dendrones;

iii) Has effector dendrites that terminates at the effector muscle/ skeletal muscle;
(ANY TWO)

22.a)

Skeletal muscle	Smooth muscle
i)Attached to the skeleton	- Found lining the inner walls of tubular structure.
ii)striated	- Unstriated.
ii)their cells / fibres are multinucleated.	-Cells have one nucleus.

(ANY TWO)

b) Muscles that work as a pair ,when one contracts the other one relaxes to cause movement;